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AMENDMENTS TO THE CLAIMS

Please replace the claims, including all prior versions, with the listing of claims found below.

In the Claims:

1. (Currently amended) ~~A method for matching~~ A process for the adaptation of transmission resources between a central communications device and ~~a number of decentralized~~ several peripheral communications devices comprising:

allocating a partial transmission resource by the central communications device to each of the peripheral communications devices, depending on a quality and/or transmission properties of at least one connection conducted over a respective partial transmission resource such that guaranteed transmission capacities of the at least one connection can be maintained;

~~using the central communications device to allocate a transmission resource element to each decentralized communications device as a function of the quality and/or transmission characteristics of at least one connection which is routed via the respective transmission resource element (tpr1...3), wherein~~

at least partially reducing the partial transmission ~~resource elements which are~~ resources allocated to the ~~decentralized communications~~ peripheral communication devices ~~are at least partially reduced~~ such that the guaranteed transmission capacities of the at least one connection are provided in part;

determining the quality and/or the transmission ~~characteristics~~ properties of the at least one connection ~~which is routed via~~ conducted over the respective reduced partial transmission ~~resource element is~~ resources; ~~determined,~~ and

modifying or retaining the extent of each reduced partial transmission ~~resource element which is~~ resources allocated to ~~a decentralized~~ each peripheral communications device ~~is modified or retained as a function of~~ depending on the quality.

2. (Currently amended) The method as claimed in claim 1, wherein

the transmission resources which become free when the allocated transmission resource elements are at least partially reduced are provided at least temporarily to other ~~decentralized~~ peripheral communications devices.

3. (Currently amended) The method as claimed in claim 1, wherein

if it is found that the guaranteed quality and/or the transmission characteristics of at least one of the connections which is routed via the reduced resource element allocated to a peripheral ~~decentralized~~ communications device is not satisfactory, the extent of the allocated, reduced, transmission resource element is increased.

4. (Currently amended) The method as claimed in claim 1, wherein

the at least one connection which is routed via the respective allocated transmission resource element is implemented using Asynchronous Transfer Mode ATM, with the ATM connection being configured in accordance with a standardized ATM service class, which in each case specifies the quality and the transmission characteristics of the ATM connection,

[[the]] information to be transmitted using an ATM connection is stored in at least one queue in each ~~decentralized~~ peripheral communications device

the current queue filling level of the at least one queue is recorded and

by assessing the recording result, the quality and the transmission characteristics of [[the]] respective ATM connections are determined, and the allocated transmission resource element is modified as a function of the quality and of the transmission characteristics.

5. (Currently amended) The method as claimed in claim 4, wherein

the ATM connections are each configured in accordance with the ATM service classes

[[-]] Constant Bit Rate, or

[[-]] Variable Bit Rate – real time, or

[[-]] Variable Bit Rate – non real time, or

[[-]] Guaranteed Frame Rate or

[[-]] Unspecified Bit Rate or

[[-]] in accordance with a further ATM service class defined by the ATM forum,

in which case the ATM service classes can be allocated to the Quality of Service classes – Class 1, Class 2, Class 3, U Class – as defined in the ITU-T Specification I.356.

6. (Currently amended) The method as claimed in claim 4, wherein

if there are a number of ATM connections which are routed via a peripheral ~~decentralized~~ communications device, [[the]] queue filling levels of the at least one queues are recorded and assessed as a function of the ATM service class of the respective ATM connections.

7. (Currently amended) The method as claimed in claim 4, wherein

[[the]] recording results are transmitted to the central communications device, and

the central communications device the transmitted recording results are used to assess the quality and the transmission characteristics of the respective ATM connections, and the transmission resource elements which are allocated to the decentralized communications devices are modified as a function of the quality and the transmission characteristics.

8. (Currently amended) The method as claimed in claim 6, wherein

an ATM service class-specific sum of the queue filling levels of the corresponding queues is formed for each ATM service class, with the ATM service class specific queue total filling level information which is formed being weighted as a function of the ATM service classes,

the quality and the transmission characteristics of the ATM connections of an ATM service class are determined by assessing the weighted ATM service class specific queue total filling level information, on an ATM service class specific basis in each case, and the transmission resource element which is allocated to the peripheral ~~decentralized~~ communications device is modified as a function of the quality and the transmission characteristics.

9. (Currently amended) The method as claimed in claim 4, wherein

the queue filling level information from ATM connections which are allocated to the stringent class – Class 1 – in accordance with ITU-T I356 are ignored, and

the transmission resource which is allocated to a ~~decentralized~~ peripheral communications device comprises at least the sum of the guaranteed minimum transmission capacity of all the ATM connections which are routed via the allocated transmission resource in the stringent class in accordance with ITU-T I.356.

10. (Currently amended) The method as claimed in claim 4, wherein

the transmission resource element which is allocated to a ~~decentralized~~ peripheral communications device is reduced in such a manner that the sum of the guaranteed minimum transmission capacity is undershot for the at least one ATM connection of an ATM service class.

11. (Currently amended) The method as claimed in claim 4, wherein

in that, for each peripheral ~~decentralized~~ communications device,

[[-]] a first upper ATM service class specific queue total filling level limit ~~(x_{HIGH})~~ is defined for each ATM service class specific queue filling level information item,

[[-]] if it is found that one of the defined first upper queue total filling level limit values ~~(x_{HIGH})~~ has been exceeded, the transmission resource element which is allocated to the ~~decentralized~~ peripheral communications device is increased in such a manner that it covers at least

[[--]] the sum of the peak cell rate of all the Constant Bit Rate and/or Variable Bit Rate - real time connections, and/or

-- the sum of the sustainable cell rate of all the Variable Bit Rate - real time connections, and/or

-- the sum of the minimum cell rate of all the Guaranteed Frame Rate connections.

12. (Currently amended) The method as claimed in claim 4, wherein

the at least one queues which are arranged in a peripheral ~~decentralized~~ communications device are read as a function of the ATM service classes of the ATM connections, and as a function of the allocated transmission resource element.

13. (Currently amended) The method as claimed in claim 4, wherein

when an allocated transmission resource element is reduced, in a ~~decentralized~~ peripheral communications device the individual queues below the respectively guaranteed minimum transmission capacity of the respective ATM connections are read.

14. (Currently amended) The method as claimed in claim 4, wherein

the at least one queues which are arranged in a peripheral ~~decentralized~~ communications device are read using the weighted fair queuing algorithm ~~(WFQ)~~, with

the at least one queues each being allocated a weighting factor as a function of the ATM service classes of the respective ATM connections, and

the at least one queues being read as a function of the allocated weighting factors.

15. (Previously presented) The method as claimed in claim 14, wherein

the reading process based on the weighted fair queuing algorithm has a further reading process based on the absolute delay priority algorithm, which is designed in accordance with the absolute delay priority algorithm, superimposed on it, by means of which the queues for ATM connections in the stringent class are read with priority.

16. (Currently amended) The method as claimed in claim 4, wherein

each ~~decentralized~~ peripheral communications device,

[[-]] a second upper queue-specific queue filling level limit value ~~(y_{HIGH})~~ is defined for each queue, and

[[-]] if it is found that one of the defined second upper queue filling level limit values ~~(y_{HIGH})~~ has been exceeded, the weighting factors which are allocated to the queues of the corresponding ATM connections are recalculated.

17. (Currently amended) The method as claimed in one of the preceding claims, whereinthe transmission resources are provided by a passive optical communications network, with the central communications device being in the form of an optical network monitoring unit and the ~~decentralized~~ peripheral communications devices being in the form of optical network termination units,

the transmission resource elements which are allocated to the ~~decentralized~~ peripheral communications devices are time-division-multiplex-oriented, and

the access from the passive optical communications network to the ~~decentralized~~ peripheral communications devices is allocated using a TDMA access method.

18. (Previously presented) The method as claimed in claim 1, wherein

the transmission resources are provided within an SDH or SONET ring.

19. (Currently amended) A communications arrangement having a central and ~~a number of decentralized~~ several communications devices, and having a transmission medium which is arranged between the central and the ~~decentralized~~ peripheral communications devices and has transmission resources, comprising:

a control unit allocating a partial transmission resource by the central communications device to each of the peripheral communications devices, depending on a quality and/or transmission properties of at least one connection conducted over a respective partial transmission resource such that guaranteed transmission capacities of the at least one connection can be maintained;

~~a control unit, which is arranged in the central communications device, for allocation of transmission resource element, to the decentralized communications devices, in each case as a function of the quality and/or the transmission characteristics of at least one connection, which is routed via the respective transmission resource element, wherein~~

the control unit is designed such that the transmission resource elements which are allocated to the ~~decentralized~~ peripheral communications devices are at least partially reduced,

the ~~decentralized~~ peripheral communications devices ~~(ONU1...3)~~ have

[[--]] a recorder for recording the quality and/or the transmission characteristics of the at least one connection which is routed via the reduced transmission resource element, [[and]]

[[--]] a transmitter for transmitting the recording result to the central communications device, and

the control unit can modify the extent of the reduced transmission resource element which is allocated to each decentralized communications device is modified or retained as a function of the recording result.

20. (Currently amended) The communications arrangement as claimed in claim 19, wherein

in that [[the]] modification means are designed such that, if it is found that the quality and/or the transmission characteristics of at least one of the connections which is routed via the reduced resource element which is allocated to a peripheral ~~decentralized~~ communications device is not sufficient, the extent of the respectively allocated, reduced transmission resource element is increased.

21. (Currently amended) The communications arrangement as claimed in claim 20, wherein

the at least one connection which is routed via the allocated transmission resource element is implemented using Asynchronous Transfer Mode ATM, with the ATM connection being configured in accordance with an ATM service class defined by the ATM forum, which in each case specifies the quality and the transmission characteristics of the ATM connection,

at least one queue is provided in each ~~decentralized~~ peripheral communications device for temporary storage of the information to be transmitted in the at least one ATM connection,

each ~~decentralized~~ peripheral communications device has a recorder for recording the current queue filling level of the at least one queue and for transmitting the recording result to the control unit which is arranged in the central communications device, and

the control unit is designed such that the quality and the transmission characteristics of the respective ATM connections are determined by assessing the transmitted recording results, and [[the]] transmission results, and the transmission resource elements which are allocated to the ~~decentralized~~ peripheral communications devices are modified as a function of the quality and the transmission characteristics.

22. (new) An access control device having a central and several communications devices, and having a transmission medium which is arranged between the central and the peripheral communications devices and has transmission resources, comprising:

a control unit allocating a partial transmission resource by the central communications device to each of the peripheral communications devices, depending on a quality and/or transmission properties of at least one connection conducted over a respective partial transmission resource such that guaranteed transmission capacities of the at least one connection can be maintained;

the control unit is designed such that the transmission resource elements which are allocated to the peripheral communications devices are at least partially reduced,

the peripheral communications devices have

a recorder for recording the quality and/or the transmission characteristics of the at least one connection which is routed via the reduced transmission resource element,

a transmitter for transmitting the recording result to the central communications device, and

the control unit can modify the extent of the reduced transmission resource element which is allocated to each decentralized communications device is modified or retained as a function of the recording result.